



Hand Tools For Microelectronics



HAMMEL, RIGLANDER & CO., INC.

Serving Precision Industries Since 1873

Post Office Box 222 • New York, N. Y. 10014 • (212) 989-7953

TWEEZERS

for gripping, manipulating, bending, probing

Though tweezers may look the same, and have the same basic functions, there are definite differences in their design, duties and physical properties. Some of these differences are explained in the paragraphs below, in the charts, and under the illustrations of the tweezers.

Dumont or Peer Style—Precision watchmakers tweezers made in Switzerland. These tweezers are forged from the best grades of metals, and machined to a smooth satin finish. Extensive hand operations are used in shaping, adjusting, and finishing the points.

Renard or Boley Style—Excellent tweezers, also made in Switzerland, but without the hand craftsmanship devoted to the Dumont or Peer style. The matched points have received some finishing at the tips.

HR Standard Tweezers—Miscellaneous special purpose styles as well as inexpensive tweezers are shown in this group.

TWEEZER METALS

The chart below shows general property relationships among the various metals used in the manufacturing of tweezers. In addition, note that the points of the harder metals will wear longer and are less subject to bending. The softer metals will not scratch delicate parts and usually have additional desirable properties such as being non-magnetic, etc.

Metal	Brand Name	Hardness	Non-Magnetic	Corrosion Resistance
Carbon Steel	Peer Supreme Dumont Renard Nickel Plated	Very Hard	No	Poor
Stainless Steel	Peer Stainless Dumont Inox Renard	Hard	No	Satisfactory
Non-Magnetic Stainless Alloy	Peer-oxel Dumoxel	Soft	Yes	Good
Carpenter 20	Peer Acid-Resist	Soft	Yes	Excellent
Titanium	Peer Titanium	Medium Hard	Yes	Very Good
German Silver	Peer Supreme Dumont	Very Soft	Yes	Fair
Brass	Renard	Very Soft	Yes	Fair

TEFLON POINTS

Industrial users can have a non-stick, anti-friction coating of Teflon, 1½ mill thick, applied to the points of all tweezers illustrated on the following pages. The slippery surface of Teflon resists acids because it is chemically inert and solvent resistant; it can be used at temperatures

ranging from —390°F to 500°F; and has outstanding insulating characteristics.

PRICES . . . Minimum Order 1 Dozen (may be assorted)

1 Doz. \$2.00 ea. / 3 Doz. \$1.50 ea. / 1 Gross \$1.00 ea.

SELECTOR CHART

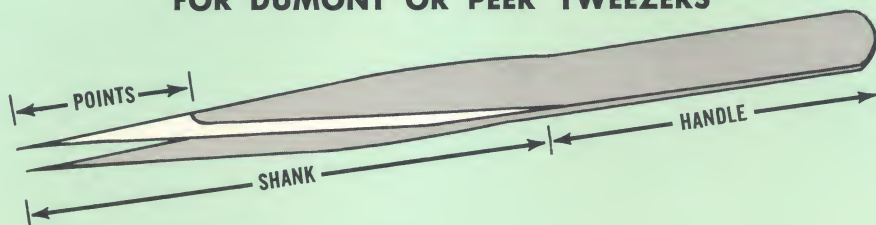
FOR DUMONT OR PEER TWEEZERS

POINTS:

- TIP
- Needle-Sharp
- Very Sharp
- Sharp
- Blunted
- Rounded-Blunt
- Concave-Convex
- Cutting

FINISH

- Extra-Honed
- Honed
- Plain



SHANKS:

- PROFILE
- Tapered
- Indented
- Curved
- Hooked

- EDGES
- Beveled
- Flat

The various types of tweezer construction illustrated above can be applied to the numerous patterns to describe basic differences and similarities. See chart below.

PATTERN	APPROX. LENGTH	SHANKS		POINTS		FEATURES
		PROFILE	EDGES	FINISH	TIPS	
1	4¾"	Tapered	Beveled	Plain	Sharp	
2	4¾"	Indented	Flat	Plain	Blunt	
2A	4¾"	Indented	Flat	Plain	Rounded-Blunt	Similar to Pattern No. 2, except that the blunt tips have been rounded.
3	4⅝"	Tapered	Beveled	Honed	Very Sharp	Similar to Pattern No. 1, except that points have received more finishing.
3C	4¼"	Tapered	Beveled	Honed	Very Sharp	A smaller version of Pattern No. 3.
4	4¼"	Indented	Beveled	Extra-Honed	Needle-Sharp	
5	4¼"	Indented	Beveled	Extra-Honed	Needle-Sharp	Similar to Pattern No. 4, except that shanks are deeply indented.
7	4½"	Curved	Beveled	Plain	Very Sharp	
7B	4½"	Curved	Beveled	Plain	Very Sharp	Similar to Pattern No. 7, except that inside of tips are serrated.
11	4¾"	Tapered	Beveled	Plain	Sharp	Similar to Pattern No. 1, but made of German Silver.
12	4⅝"	Tapered	Beveled	Honed	Very Sharp	Similar to Pattern No. 3, but made of German Silver.
H	3½"	Tapered	Flat	Honed	Rounded-Blunt	Stubby thick blades.
00	4½"	Tapered	Flat	Honed	Blunt	
0	4½"	Tapered	Flat	Honed	Very Sharp	
0C	3½"	Tapered	Flat	Honed	Very Sharp	A smaller version of Pattern No. 0.
8	4¼"	Straight	Flat	Plain	Beveled-Blunt	For wire straightening.
6	4½"	Hooked	Flat	Plain	Sharp	For wire coiling.
10/1	4¼"	Indented	Flat	Honed	Concave-Convex	For wire bending, angling, etc.
10/3	4¼"	Indented	Flat	Honed	Concave-Convex	Same as Pattern No. 10/1, except for larger tip.
14C	4½"	Curved	Flat	Plain	Cutting	Side cutter.
15	4¼"	Tapered	Flat	Plain	Cutting	End cutter.
15A	4½"	Hooked	Beveled	Honed	Cutting	Oblique cutter.
15AP	4½"	Hooked	Beveled	Honed	Cutting	Similar to Pattern No. 15A, but with parallel cutting edges.

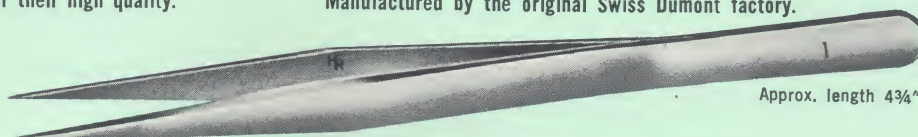
GENUINE PEER® TWEEZERS

Swiss made tweezers, long recognized for their high quality.

ILLUSTRATIONS ARE ACTUAL SIZE

PATTERN Nos. 1 and 11

For general use (assembly, inspection, sorting). These tweezers have tapered shanks with beveled edges; points are sharp and plain-finished. Pattern No. 11 is made of non-magnetic German Silver and is the same length as No. 1.

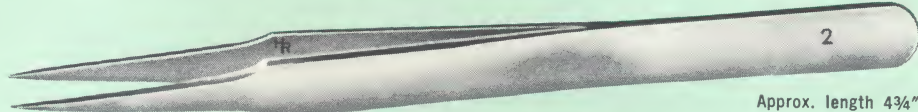


Approx. length 4 3/4"

Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
1	Stainless Steel	46-201	\$2.35	46-151	\$3.45
1	Carbon Steel	46-301	2.10	46-101	2.90
1	Non-Mag. Stainless	46-351	3.10	46-251	4.10
1	Titanium	46-371	6.10	—	—
11	German Silver	46-311	2.80	46-111	3.60

PATTERN Nos. 2 and 2A

General use tweezers that have sturdier points than Pattern No. 1... tips are slightly wider and thicker. Shanks are indented and have flat edges for gripping object with tip or side. The plain-finished points are available either with a fine square tip (Pattern 2) or a wider rounded tip (Pattern 2A). No. 2A has been used in the electronic industry to handle Silicon and Germanium Wafers.

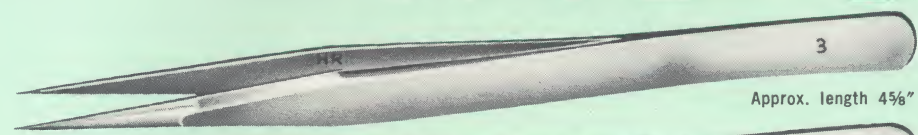


Approx. length 4 3/4"

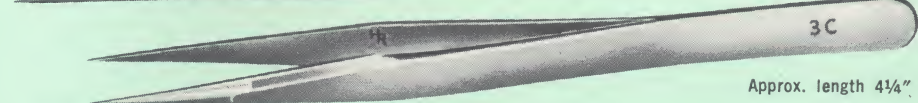
Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
2	Stainless Steel	46-202	\$2.50	46-152	\$3.70
2	Carbon Steel	46-302	2.25	46-102	3.10
2	Non-Mag. Stainless	46-352	3.25	46-252	4.25
2	Titanium	46-372	6.25	—	—
2A	Stainless Steel	46-202A	3.40	—	—
2A	Non-Mag. Stainless	46-352A	3.90	—	—
2A	Carpenter 20	46-362A	4.40	—	—

PATTERN Nos. 3, 3C and 12

Excellent tweezers for handling all miniature and micro-miniature parts. They have tapered shanks with beveled edges; points have been honed and are very sharp. Pattern No. 12 is made of non-magnetic German Silver and is the same length as No. 3.



Approx. length 4 5/8"



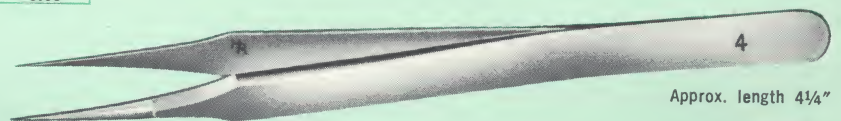
Approx. length 4 1/4"

Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
3	Stainless Steel	46-203	\$2.50	46-153	\$3.70
3	Carbon Steel	46-303	2.25	46-103	3.10
3	Non-Mag. Stainless	46-353	3.25	46-253	4.25
3	Carpenter 20	46-363	3.75	—	—
3	Titanium	46-373	6.25	—	—
12	German Silver	46-312	3.25	46-112	3.80

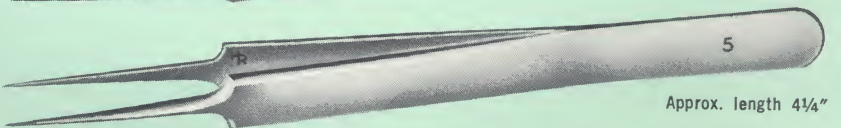
Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
3C	Stainless Steel	46-203C	\$2.50	46-153C	\$3.70
3C	Carbon Steel	46-303C	2.25	46-103C	3.10
3C	Non-Mag. Stainless	46-353C	3.25	46-253C	4.25
3C	Carpenter 20	46-363C	3.75	—	—
3C	Titanium	46-373C	6.25	—	—

PATTERN Nos. 4 and 5

Ideally suited for handling microscopic parts. These tweezers have indented shanks with beveled edges and points that have been extra-honed to a needle-like shape and sharpness. When maximum visibility is needed select Pattern No. 5, with its very narrow shanks.



Approx. length 4 1/4"



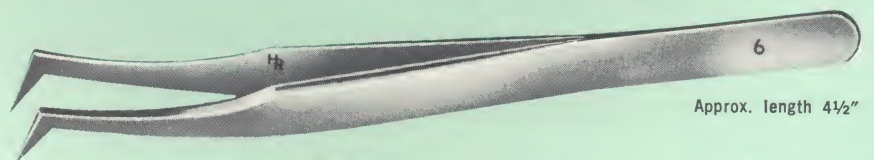
Approx. length 4 1/4"

Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
4	Stainless Steel	46-204	\$3.15	46-154	\$4.05
4	Carbon Steel	46-304	2.90	46-104	3.70
4	Non-Mag. Stainless	46-354	3.90	46-254	4.90
4	Carpenter 20	46-364	4.40	—	—
4	Titanium	46-374	6.90	—	—

Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
5	Stainless Steel	46-205	\$3.45	46-155	\$4.75
5	Carbon Steel	46-305	3.20	46-105	4.15
5	Non-Mag. Stainless	46-355	4.20	46-255	5.20
5	Carpenter 20	46-365	4.70	—	—
5	Titanium	46-375	7.20	—	—

PATTERN No. 6

Sharp hooked points for wire wrapping, forming, bending and coiling. The angled points can also be used to reach hard-to-get-at spots.



Approx. length 4 1/2"

Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
6	Stainless Steel	46-206	\$3.75	46-156	\$5.50
6	Carbon Steel	46-306	3.50	46-106	5.00
6	Non-Mag. Stainless	46-356	4.50	46-256	5.70

TWEEZERS

PATTERN Nos. 7, 7A and 7B

Excellent tweezers for handling all miniature and micro-miniature parts and components. Its shape permits the user to rest his hand on the bench during assembly operations. The curved shanks have beveled edges; points have a plain-finish, but are very sharp. Pattern No. 7A is slightly stronger than No. 7. Pattern 7B has non-slip serrated jaws.



Approx. length 4 1/2"

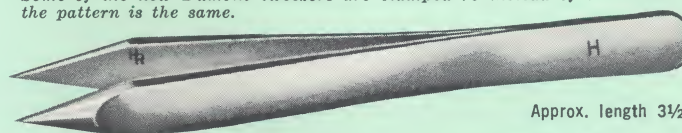
Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
7	Stainless Steel	46-207	\$3.75	46-157	\$5.50
7	Carbon Steel	46-307	3.50	46-107	5.00
7	Non-Mag. Stainless	46-357	4.50	46-257	5.70
7	Carpenter 20	46-367	5.00	—	—
7	Titanium	46-377	7.50	—	—
7A	Carbon Steel	—	—	46-107A	5.00

Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
7B	Stainless Steel	46-207B	\$3.75	46-157B	\$5.50
7B	Carbon Steel	46-307B	3.50	46-107B	5.00
7B	Non-Mag. Stainless	46-357B	4.50	46-257B	5.70

Some of the new Dumont tweezers are stamped 7e instead of 7. However, the pattern is the same.

PATTERN H

Stubby, wide shanks allow you to get a good strong grip on the object. Generally used in pairs for wire bending, hairspring adjusting, etc. They have tapered shanks with flat edges; points are honed and have round blunt tips.

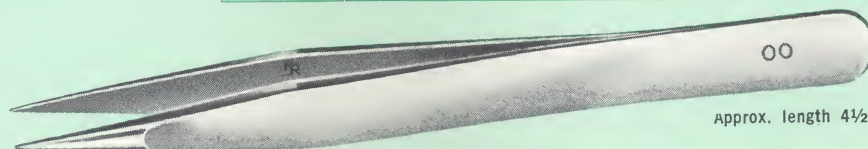


Approx. length 3 1/2"

Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
H	Stainless Steel	46-233	\$2.50	—	—
H	Carbon Steel	—	—	46-133	\$3.10

PATTERN OO

A general utility tweezer (assembly, inspection, sorting, etc.). Shanks are thick and have flat edges that enable the user to grip and hold the object with the edge as well as the tip. Points are honed and have blunt tips.

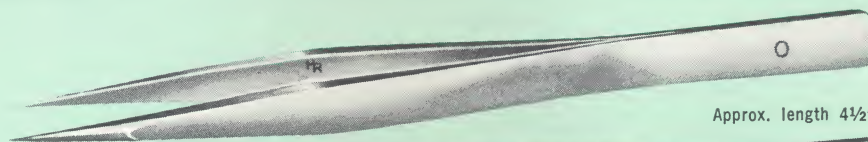


approx. length 4 1/2"

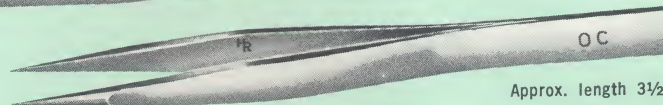
Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
OO	Stainless Steel	46-240	\$2.65	46-190	\$3.95
OO	Carbon Steel	46-340	2.40	46-140	3.45
OO	Non-Mag. Stainless	46-390	3.40	46-290	4.40

PATTERNS O and OC

Excellent tweezer for handling miniature and micro-miniature parts. They have tapered shanks, not as thick as Pattern OO, with flat edges; points have been honed and are very sharp.



Approx. length 4 1/2"



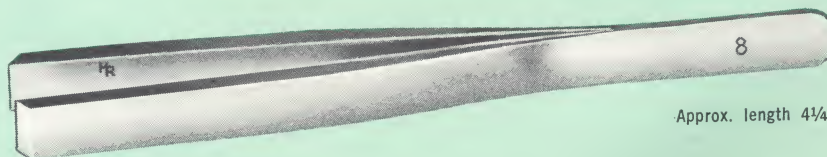
Approx. length 3 1/2"

Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
O	Stainless Steel	46-200	\$2.65	46-150	\$3.95
O	Carbon Steel	46-300	2.40	46-100	3.45
O	Non-Mag. Stainless	46-350	3.40	46-250	4.40

Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
OC	Stainless Steel	46-200C	\$2.65	46-150C	\$3.95
OC	Carbon Steel	46-300C	2.40	46-100C	3.45
OC	Non-Mag. Stainless	46-350C	3.40	46-250C	4.40

PATTERN No. 8

Straightens terminal lead wires, needle point indicators, hands, pivots, etc. Blades are extra thick with blunt jaws and have beveled ends for better visibility.

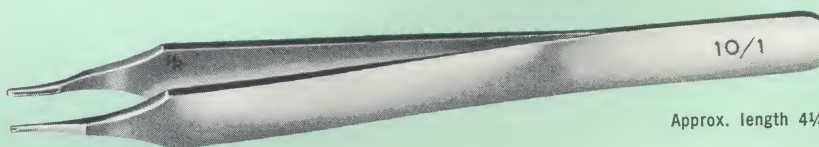


Approx. length 4 1/4"

Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
8	Stainless Steel	46-208	\$5.45	—	—
8	Carbon Steel	46-308	4.95	46-108	\$6.95

PATTERN Nos. 10/1 and 10/3

Concave-Convex jaws for bending and angling fine wires, especially in extremely tight places. Pattern No. 10/1 is .045" wide at the tip. Pattern No. 10/3 is .071" wide.

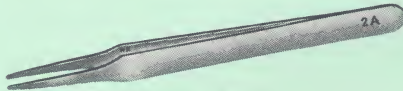


Approx. length 4 1/4"

Pattern	Metal	Peer		Dumont	
		No.	Price	No.	Price
10/1	Carbon Steel	46-310/1	\$6.95	46-110/1	\$7.00
10/3	Carbon Steel	46-310/3	6.95	46-110/3	7.00

SEMI-CONDUCTOR TWEEZERS

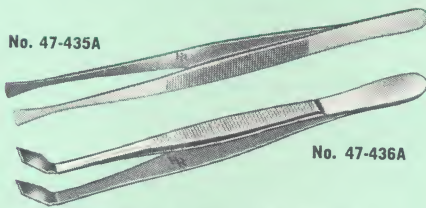
Have anti-acid properties and smooth large points for picking-up and holding the most delicate crystal growths, thin film components, etc., without damaging the surface.



PATTERN No. 2A

For use on the small pieces cut from silicon wafers and similar, delicate crystal growths. They have wide (.055"), round, perfectly matched tips, and are available in a choice of acid resistant, non-corrosive metals.

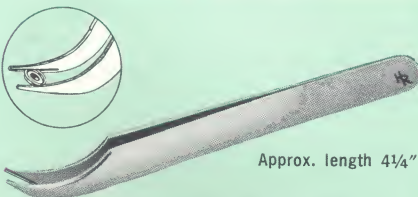
No.	Metal	Each
46-202A	Stainless Steel	\$3.40
46-352A	Non-Mag. Stainless	3.90
46-362A	Carpenter 20	4.40



PATTERN Nos. 35A and 36A

For handling the large wafer type crystal growths prior to cutting and forming. They have big, wide, 1/4" convex points, that have been honed and finished to a knife edge so that they easily slide under thin, delicate parts or components without damage.

No.	Type	Metal	Each
47-435A	Straight	Non-Mag. Stainless	\$3.50
47-436A	Offset		3.50



Approx. length 4 1/4"

GROOVED TWEEZERS

The offset points are grooved on the inside to hold miniature jewel bearings and similar precision parts by their sides during special assembly operations.

No.	Metal	Each
47-393	Carbon Steel	\$2.80

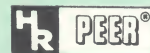
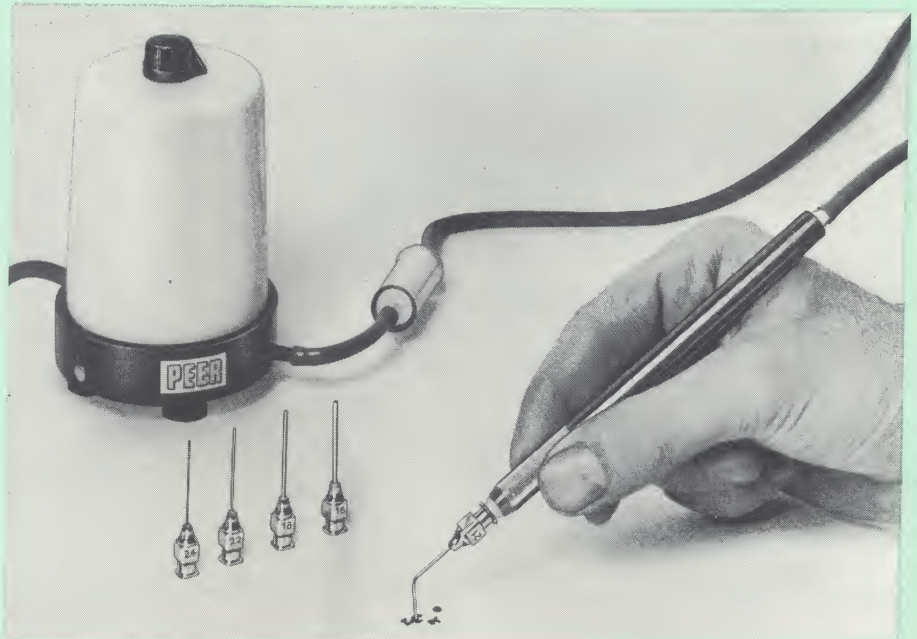


NEEDLE NOSE PLIERS

Imported Box Joint "Hemostat" Pliers for use as a heat sink, clamp or third hand while soldering, and for reaching into deep inaccessible areas to grip, manipulate or pull.

Peer Needle Nose Pliers are made of a high quality stainless steel that has been polished to a bright finish. Handles have a good insulation coat of vinyl plastic with a two-position locking device between the loops. The Box Joint construction prevents looseness or wobble from developing in the serrated jaws. Nos. 36-442P and 36-443P are "mosquitoe" style.

No.	Jaws	Dimensions				Price
		O.L.	A	B	C	
36-440P	Straight	5 3/4"	1 3/4"	1/4"	3/16"	\$4.80
36-441P	Curved (40°)	5 5/8"	1 3/8"	5/16"	3/16"	
36-442P	Straight	4 7/8"	7/8"	3/16"	1/8"	
36-443P	Curved (40°)	4 7/8"	7/8"	3/16"	1/8"	



VACUUM TWEEZER

Handles delicate miniature objects without scratching, breaking or pinching; avoids contamination of the part; and performs tweezer functions such as sorting, picking up, holding, carrying, etc.

The HR Peer Vacuum Tweezer is a lightweight, portable unit completely assembled and ready for immediate operation as soon as the proper size tip is selected and installed. Vacuum is created at the tip by placing the forefinger over the control hole on the pencil handle... to break the vacuum just remove your finger from the hole.

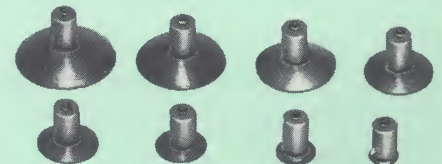
The vacuum generator is small (4 1/2" high, 2 3/4" in diameter), adjustable so that you can dial the exact vacuum pressure, and creates up to 14" Hg Vacuum (an air flow of 125 cubic inches per minute). Unit is completely noiseless during operation.

SET CONTAINS:

- Vacuum generator
- Anodized aluminum cylindrical probe
- Inline filter to protect the generator
- On-Off Switch
- 4 foot length of tubing
- 5 stainless steel probe tips

Gauge	O.D.	I.D.
14	.071"	.052"
16	.065"	.047"
20	.035"	.022"
22	.028"	.016"
24	.022"	.011"

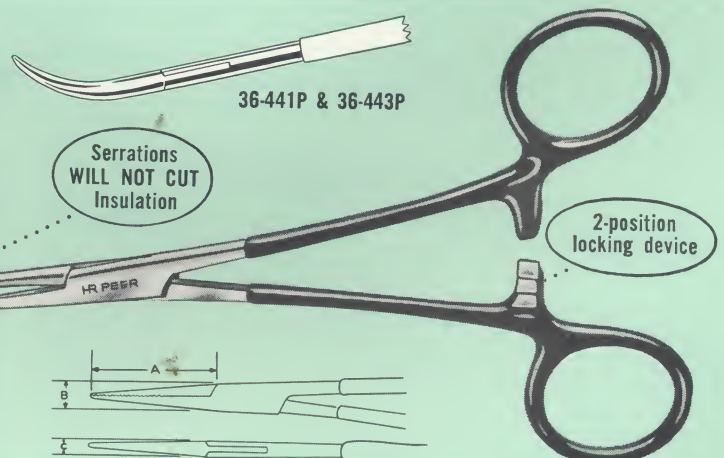
No.	Description	Set
47-805	115 Volt, 60 Cycle A.C. Current	\$33.50



ACCESSORY SET

Contains 8 Neoprene vacuum cups which fit on probe tip to facilitate picking up larger objects. Tip diameters 3/16" to 5/8" by 16ths. Comes in plastic box.

No.	Description	Set
47-808	Set of 8 Vacuum Cups	\$6.50



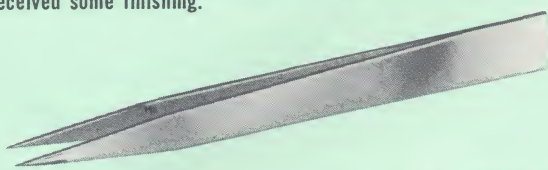
36-441P & 36-443P

Serrations
WILL NOT CUT
Insulation

2-position
locking device


TWEEZERS

Economical Swiss made tweezers with flat edge shanks and points that have received some finishing.

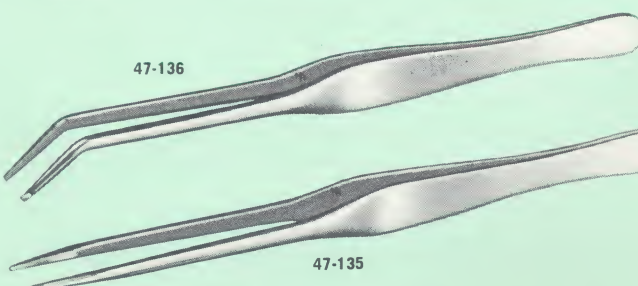


No.	Metal	Length	Price
47-003 1/2	Plain Steel	4 1/2"	\$0.40
47-009	Non-Mag. Brass	4 1/2"	.75
47-028	Nickel Plated Steel	4 1/2"	.60

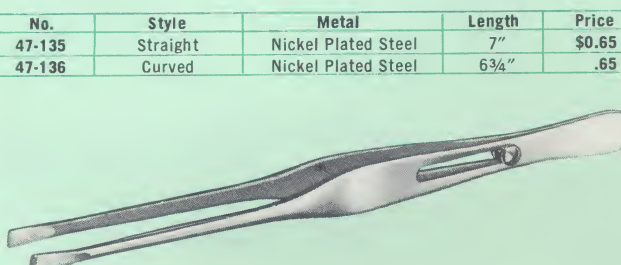
Economical American made tweezers with blunt points for soldering and general use.



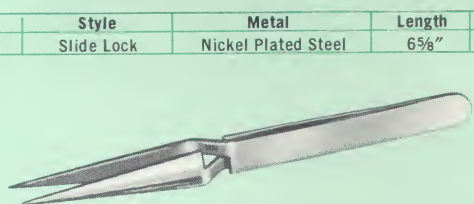
No.	Metal	Length	Price
47-008	Nickel Plated Steel	4 1/2"	\$0.35



No.	Style	Metal	Length	Price
47-135	Straight	Nickel Plated Steel	7"	\$0.65
47-136	Curved	Nickel Plated Steel	6 3/4"	.65



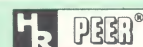
No.	Style	Metal	Length	Price
47-053	Slide Lock	Nickel Plated Steel	6 5/8"	\$0.75



No.	Style	Metal	Length	Price
47-040	Cross Lock	Nickel Plated Steel	4 5/8"	\$0.50

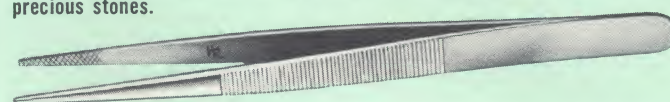


No.	Style	Points	Metal	Length	Price
47-045	Cross Lock	1/8" wide	Nickel Plated Steel	6 1/2"	\$0.60
47-046	Cross Lock	Pointed	Nickel Plated Steel	6 3/4"	.65



SERRATED TWEEZERS

Extra high quality West German made tweezers with finely serrated jaws that grip and hold even the most delicate objects securely without damage. Extensively used by jewelers for handling precious and semi-precious stones.



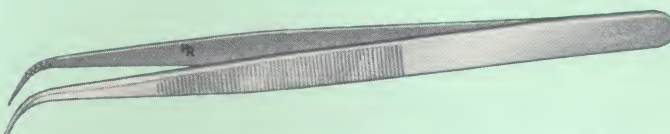
Smooth polished, Chromium plated steel tweezers, used in industry, laboratory research, etc., with serrated jaws and corrugated shanks that provide firm, non-slip gripping and holding. They are available in three different lengths and two tip sizes (medium and fine). Shanks are tapered, have beveled edges, and the points are hand finished.

No.	Points	Length	Price
47-514	Medium	5 1/2"	\$1.85
47-514 1/2	Fine	5 1/2"	1.85
47-515	Medium	6"	1.95
47-515 1/2	Fine	6"	1.95
47-516	Medium	6 3/8"	2.05
47-516 1/2	Fine	6 3/8"	2.05



Slender tweezers with very fine, sharp, straight points and non-slip, serrated jaws. The slender shape makes them lighter in weight and gives better visibility in grasping, sorting and holding miniature items.

No.	Metal	Length	Price
47-614	Chromium Plated Steel	5 1/2"	\$2.15
47-634	Stainless Steel	5 1/2"	2.65
47-618	Chromium Plated Steel	4 5/8"	2.05
47-638	Stainless Steel	4 5/8"	2.55



Similar to the 47-614 etc., except the serrated jaws are curved which permits the user to work in awkward places and helps reduce operator fatigue on the assembly line because the hand can rest on the bench.

No.	Metal	Length	Price
47-616	Chromium Plated Steel	5 1/2"	\$2.35
47-636	Stainless Steel	5 1/2"	2.85
47-620	Chromium Plated Steel	4 5/8"	2.25
47-640	Stainless Steel	4 5/8"	2.75



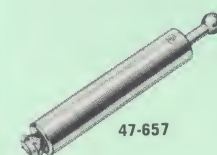
Chromium plated steel tweezers with serrated jaws and sleeve locking device. Non-slip gripping because sliding button and opposite blade are corrugated. Shanks are tapered and have beveled edges; both medium and fine points are available.

No.	Points	Length	Price
47-612	Medium	5 1/2"	\$2.85
47-613	Fine	5 1/2"	2.85



STONE HOLDERS

For gripping and holding small objects. Plunger in handle opens 3 prong wire jaw that withdraws back in handle when not in use. No. 47-655 has a pocket clip.



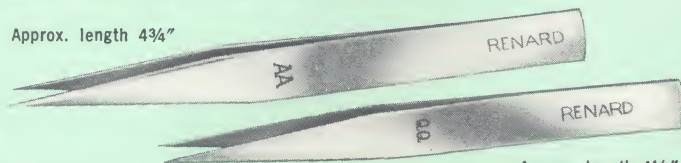
No.	O.L.	Price
47-655	4 3/4"	\$2.25
47-657	2"	1.95



The Renard or Boley Style Tweezers are excellent general utility tweezers made in Switzerland. All shanks are tapered, except the GG Pattern, and have beveled edges. The sharp points have received some finishing at the tips.

PATTERNS AA and QQ

Approx. length 4¾"



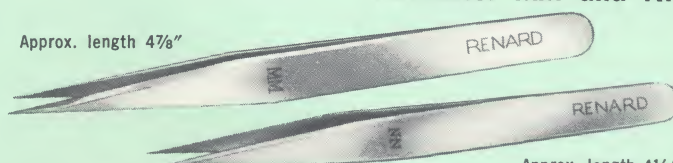
Approx. length 4¼"

For assembly, inspection, sorting, soldering, etc. of small parts and components. Pattern QQ is a small (4¼"), thinner version of Pattern AA. Solder will not adhere to No. 46-602B (Black Oxidized).

Pattern	Metal	No.	Price
AA	Nickel Plated Steel	46-602	\$1.20
AA	Black Oxidized	46-602B	1.20
AA	Carpenter 20	46-602C	2.45
AA	Stainless Steel	46-652	1.45
QQ	Nickel Plated Steel	46-622	1.10

PATTERNS MM and NN

Approx. length 47/8"



Approx. length 4½"

Similar to Patterns AA & QQ, but heavier. The shanks are slightly longer and the corner of the handle has been rounded. Pattern NN is the smaller version.

Pattern	Metal	No.	Price
MM	Nickel Plated Steel	46-613	\$1.30
MM	Stainless Steel	46-663	1.55
NN	Nickel Plated Steel	46-615	1.20

Approx. length 5"

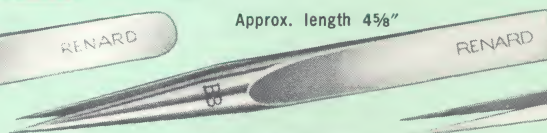


PATTERN AM

Non-Magnetic brass version of Pattern MM. Excellent for handling parts that scratch easily.

Pattern	Metal	No.	Each
AM	Non-Mag. Brass	46-603	\$1.65

Approx. length 45/8"



PATTERN BB

An extremely light tweezer with thin shanks that have been stamped into a convex shape.

Pattern	Metal	No.	Each
BB	Nickel Plated Steel	46-604	\$1.00

Approx. length 5"



PATTERN GG

The indented shanks and finer points make this pattern suitable for handling small parts during production line operations.

Pattern	Metal	No.	Each
GG	Nickel Plated Steel	46-606	\$1.45
GG	Stainless Steel	46-656	1.70

Approx. length 43/8"



PATTERN HH

Thick strong shanks are the feature of this short tweezer.

Pattern	Metal	No.	Each
HH	Nickel Plated Steel	46-608	\$1.25

Approx. length 5½"



PATTERNS RR and LL

Hefty, heavy duty tweezers with wide shanks and points similar to those on Pattern AA. The shanks and handle of Pattern RR are extra thick. Pattern LL is a smaller (45/8") version.

Pattern	Metal	No.	Each
RR	Nickel Plated Steel	46-624	\$1.95
LL	Nickel Plated Steel	46-611	1.15

Approx. length 4¾"

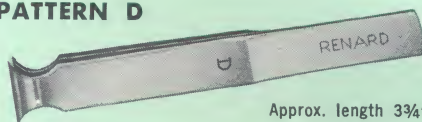


PATTERNS OO and PP

Pattern OO is similar to Pattern AA in design, except for its thinner shanks and handle. Pattern PP is a shorter (4¼") version.

Pattern	Metal	No.	Each
OO	Nickel Plated Steel	46-617	\$1.20
PP	Nickel Plated Steel	46-619	1.10

PATTERN D



Approx. length 3¾"

For cutting very fine wires such as transistor inter-connections, filaments on miniature lamps, hairsprings, etc.

Pattern	Metal	No.	Price
D	Nickel Plated Steel	46-631	\$2.25

PATTERN K



Approx. length 4¼"

Grooved jaws for grasping and removing small indicator hands from potentiometers, watches, etc.

Pattern	Metal	No.	Price
K	Nickel Plated Steel	46-633	\$2.45

PATTERN V



Approx. length 3¾"

A very small tweezer with a plastic sheath to protect the points and permit the user to carry it in his pocket.

Pattern	Metal	No.	Price
V	Nickel Plated Steel	46-635	\$1.50



No. 47-277

No. 47-275

Approx. length 6½"

FIBRE GRIP

Have heat resistant fibre grips and self-locking jaws. The long tapered shanks have plain, blunt points.

No.	Type	Metal	Each
47-275	Straight	Polished Steel	\$2.50
47-277	Curved	Polished Steel	2.95



"THIRD HAND"

SOLDERING STAND

Hold self-locking or slide-locking tweezers securely allowing the user to keep both hands free. Swivel ball joint clamp positions the work at any angle and is mounted on a heavy metal base. Comes with self-locking tweezer.

No.	Tweezer Length	Price
42-404R	6½"	\$3.20

PLIERS AND NIPPERS



SWISS NIPPERS

For difficult or special wire cutting problems. Hand made in Switzerland from a special tool steel with long wearing, honed cutting edges that far outlasts the ordinary nipper.



FULL-FLUSH EDGES

Cuts wire almost perfectly straight and flush... leaves no wire peak.

These miniature wire cutters are excellent for use on compact, intricate circuit assemblies, instruments and individual components such as electron tubes, semiconductors, miniature lamps, etc. Their light weight helps reduce operator fatigue resulting from continuous exacting wire cutting operations.

Oblique Cutters — Jaws are angled approximately 20° with one end coming to a fine point and other end rounded. Available with straight or curved handles.

End Cutters — Jaws are set straight across with one or both ends coming to a fine point. Available with straight or curved handles.

Plastisol Handles & Leaf Springs — Available for all models except No. 36-619RS. To order add the suffix "P" (for plastic handles) or the suffix "PS" (for plastic handles and leaf springs), to the order number, i.e. 36-617P or 36-617PS. Additional charges: 25¢ for handles and 50¢ for handles and springs.



Nos. 36-617E and 36-619E

No. 36-619PS Curved Handles

Has optional plastic handles and removable non-jamming leaf springs.

No. 36-619RS Curved Handles

Chromium plated with permanent On-Off leaf spring.

OBLIQUE CUTTERS

No.	Handles	Length	Jaws	Price
36-617	Straight	4 3/8"	1 1/16"	\$8.00
36-617C	Straight	4"	1 1/16"	8.00
36-619	Curved	4 1/4"	1 1/16"	8.00
36-619RS	Curved (with spring)	4 1/4"	1 1/16"	10.35

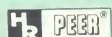
END CUTTERS

No.	Handles	Length	Jaws	Price
36-616	Straight	4 3/8"	3/8"	\$8.00
36-618	Curved	4 1/4"	1 1/16"	8.00
36-620	Straight	4 3/8"	3/4"	9.00

PEER EXTRA

Extra Hard oblique cutting edges (Rockwell "C" hardness in the high sixties) for the more difficult wire cutting problems. These Nippers are made of a long wearing special alloy that has been plated with chrome. Because of the amount of hand work devoted to their manufacture only a limited supply is available.

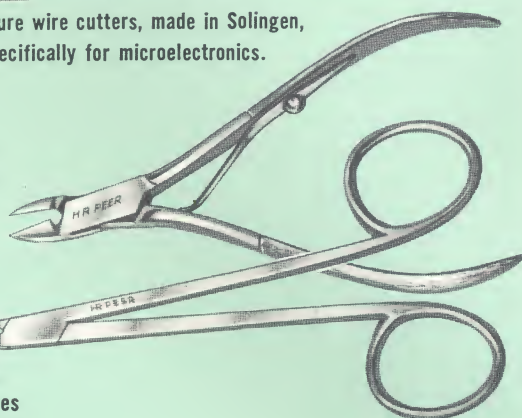
No.	Handles	Length	Jaws	Each
36-617E	Straight	4 3/8"	1 1/16"	\$17.50
36-619E	Curved	4 1/4"	1 1/16"	17.50



MIDGET NIPPERS

Box-Joint miniature wire cutters, made in Solingen, designed specifically for microelectronics.

No. 36-454 Plier Handles

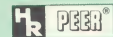


No. 36-464 Scissor Handles

For flush cutting wires less than .025"... honed cutting edges will snap-cut at any part of cutting edge. Made of high quality drop forged steel that has been nickel plated. Model with plier handles has permanent On-Off leaf spring.



No.	Handles	Length	A	B	C	Price
36-454	Plier	4"	3/8"	1/32"	1/4"	\$4.40
36-464	Scissor	4"	1/2"	1/32"	3/16"	4.40



NIPPERS

Economical flush cutting nippers, made in West Germany, for cutting soft wires in difficult areas.

END CUTTING No. 36-516

OBLIQUE CUTTING No. 36-517

Slightly larger than the Swiss Nippers. These small sturdily made wire cutters have sharp, honed cutting edges that will cut soft wire straight and flush leaving no wire peak. Smooth polished handles are curved and balanced to fit the hand.

End Cutter — Jaws are set straight across with both ends coming to a fine point... will snap-cut at the tips.

Oblique Cutter — Jaws are angled 20° with one end coming to a fine point and the other end rounded... will snap-cut at the tip.

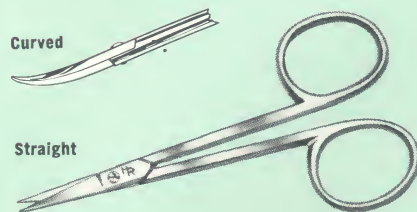
Plastisol Handles — Available for both models at an additional charge of 25¢. To order add the suffix "P" to the order number, i.e. 36-516P. No springs available.

No.	Style	Length	Jaws	Price
36-516	End	4 1/4"	1 1/16"	\$4.75
36-517	Oblique	4 1/2"	1 1/16"	4.75

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

PEER® SCISSORS for flat wire and sheet metal

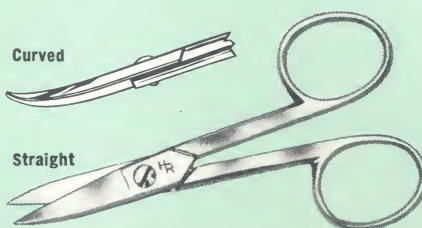
Made in Solingen of a high quality drop forged steel with a bright nickel-plated finish that prevents oxidation.



SHORT BLADE SCISSORS

For small, soft wire. Very slender, narrow, tapered blades, approximately $\frac{3}{4}$ " long and $\frac{1}{16}$ " wide, with medium loop handles.

No.	Blades	Dimensions		Price
		O.L.	Blade	
41-810	Straight	3½"	$\frac{3}{4}$ "x $\frac{1}{16}$ "	\$2.50
41-811	Curved	3½"	$\frac{3}{4}$ "x $\frac{1}{16}$ "	2.50



WIDE BLADE SCISSORS

For small, soft wire. Short wide blades, approximately 1" long and $\frac{1}{4}$ " wide, with medium loop handles.

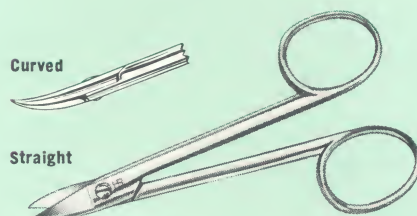
No.	Blades	Dimensions		Price
		O.L.	Blade	
41-815	Straight	3¾"	1"x $\frac{1}{4}$ "	\$2.50
41-816	Curved	3¾"	1"x $\frac{1}{4}$ "	2.50



NARROW BLADE SCISSORS

For small, soft wire. With longer tapered blades approximately $1\frac{3}{8}$ " long and $\frac{1}{4}$ " wide, and large loop handles.

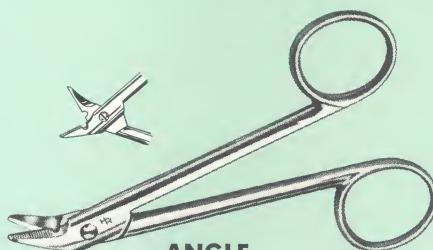
No.	Blades	Dimensions		Price
		O.L.	Blade	
41-820	Straight	4¾"	1¾"x $\frac{1}{4}$ "	\$2.60



CROWN SCISSORS

For hard wire. Short, stubby blades approximately $\frac{5}{16}$ " long and $\frac{1}{4}$ " wide, in three different styles including a serrated edge.

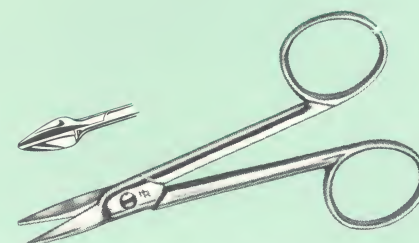
No.	Blades	Dimensions		Price
		O.L.	Blade	
41-825	Straight	4½"	$\frac{5}{16}$ "x $\frac{1}{4}$ "	\$2.30
41-826	Straight (1 edge serrated)	4½"	$\frac{5}{16}$ "x $\frac{1}{4}$ "	2.40
41-827	Curved	4½"	$\frac{5}{16}$ "x $\frac{1}{4}$ "	2.40



ANGLE CROWN SCISSORS

For precision cutting of wire and light sheet metal where other cutters fail. Has a special cutout for round wire, a serrated jaw, and strong leverage. Will cut from a straight line to any degree of a curved line.

No.	Blades	Dimensions		Price
		O.L.	Blade	
41-829	Angled	4¾"	$\frac{5}{16}$ "x $\frac{1}{4}$ "	\$4.50



IN-AND-OUT SCISSORS

For hard wire and light sheet metals. Short triangular blades, approximately $\frac{1}{2}$ " in length, for cutting in-and-out patterns and designs. This small scissor has strong leverage and cutting action.

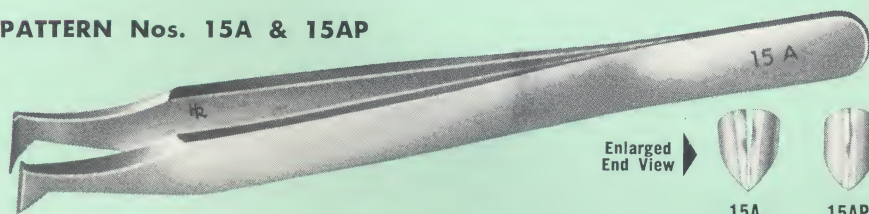
No.	Blades	Dimensions		Price
		O.L.	Blade	
41-830	Straight	4¾"	1¾"x $\frac{1}{4}$ "	\$3.95

CUTTING TWEEZERS

PEER® Supreme CUTTING TWEEZERS for very fine precision wire

Precision watchmakers tweezers made in Switzerland of the best quality tool steel. Extensive hand operations are used in shaping, adjusting and finishing the cutting edges.

PATTERN Nos. 15A & 15AP



Pattern No. 15A—The most popular wire cutting tweezer. It has a strong oblique cutting edge that gives crisp, clean, close cuts on many types of fine wire. Pattern No. 15AP is similar but has parallel cutting edges.

No.	Pattern	Length	Price
46-315A	15A	4½"	\$7.50
46-315AP	15AP	4½"	7.50



PATTERN No. 14aN

For very soft wire. Hooked end for getting into very tight places.

No.	Pattern	Length	Price
46-314aN	14aN	4¾"	\$7.50



PATTERN No. 14C

For very soft wire. Special end permits it to reach normally inaccessible places.

No.	Pattern	Length	Price
46-314C	14C	4½"	\$6.15

PATTERN No. 15

End cutter for very soft wire or for stripping fine magnet wire.

No.	Pattern	Length	Price
46-315	15	4¾"	\$5.35

PLIERS AND NIPPERS

LINDSTROM Supreme NIPPERS for precision electronic wires

Midget nippers for use on the compact electronic circuits, assemblies, and components required by today's space age technology. Miniature heads easily reach into confined spaces and the sharp, honed cutting edges will snap-cut right to the tip.



SEMI-FLUSH EDGES
For cutting medium hard wire...leaves a very small peak.



FULL-FLUSH EDGES
For cutting soft wire straight across...leaves no wire peak.



END CUTTING

Jaws are set straight across with both ends coming to a point. Comes complete with vinyl plastisol handles and double-leaf springs.

No.	Cutting Edges	Length of cut	Overall	Price
36-316PS	Semi-Flush	3/8"	4 1/4"	\$5.85
36-316 1/2 PS	Full-Flush	3/8"	4 1/4"	6.35

OBLIQUE CUTTING

Head is angled 15° with tip coming to a point. Comes complete with vinyl plastisol handles and double-leaf springs.

No.	Cutting Edges	Length of cut	Overall	Price
36-317PS	Semi-Flush	3/8"	4 1/4"	\$5.85
36-317 1/2 PS	Full-Flush	3/8"	4 1/4"	6.35

DIAGONAL CUTTING

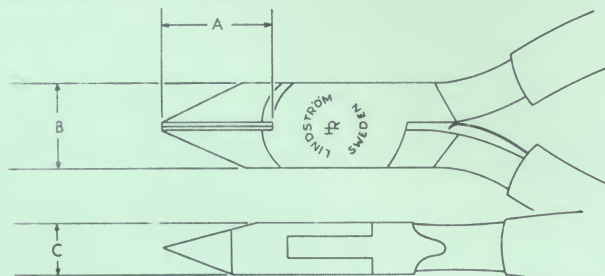
Traditional and popular type head for side cutting. Comes complete with vinyl plastisol handles and double-leaf springs.

No.	Cutting Edges	Length of cut	Overall	Price
36-318PS	Semi-Flush	1/2"	4 1/2"	\$5.85
36-318 1/2 PS	Full-Flush	1/2"	4 1/2"	6.35

LINDSTROM TAPERED NOSE NIPPERS for electrical/electronic wires

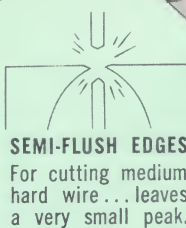
Larger, heavier and stronger than the Supreme series with a tapered nose for reaching into confined spaces and snap-cutting heavier wire at the tip.

Forged from the best high grade of Swedish Tool Steel this tapered nose diagonal cutter has cutting edges that have been induction hardened and then hand honed to a keen edge. All models have vinyl plastisol handles and double leaf springs.



No.	Length	Edges	A	B	C	Price
36-018PS	4 1/2"	Semi-Flush	1/2"	1/2"	3/8"	\$5.00
	5"	Semi-Flush	5/8"	1/2"	3/8"	5.25
36-018 1/2 PS	4 1/2"	Full-Flush	1/2"	1/2"	3/8"	5.50
	5"	Full-Flush	5/8"	1/2"	3/8"	5.75

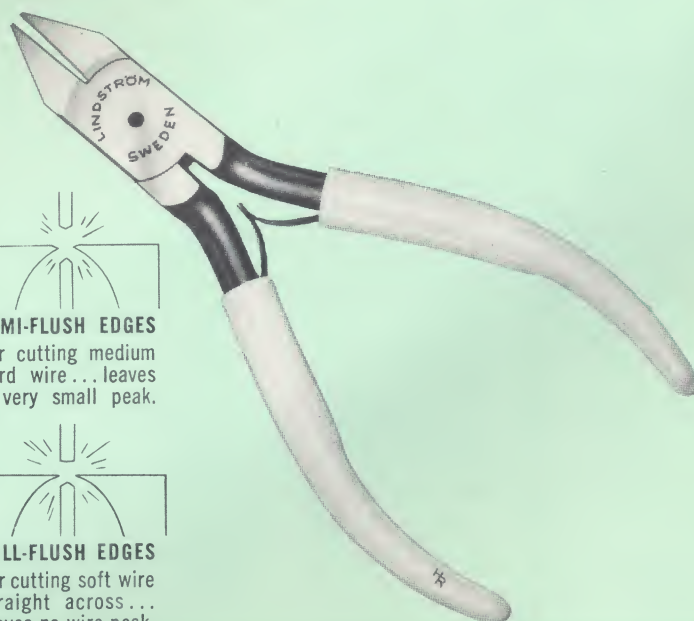
Specify number and length, when ordering



SEMI-FLUSH EDGES
For cutting medium hard wire...leaves a very small peak.

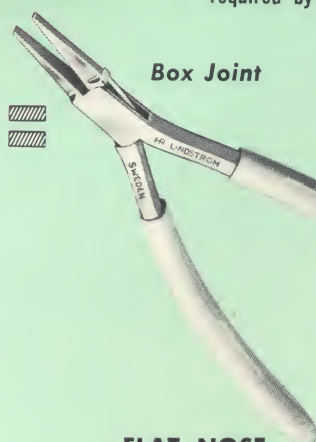


FULL-FLUSH EDGES
For cutting soft wire straight across...leaves no wire peak.



LINDSTROM Supreme PLIERS for precision electronic wires

Midget pliers with "Box Joints" for use on the compact electronic circuits assemblies and components required by today's space age technology. All have smooth jaws with radius edges to prevent nicking, gouging or abrading of soft metals.

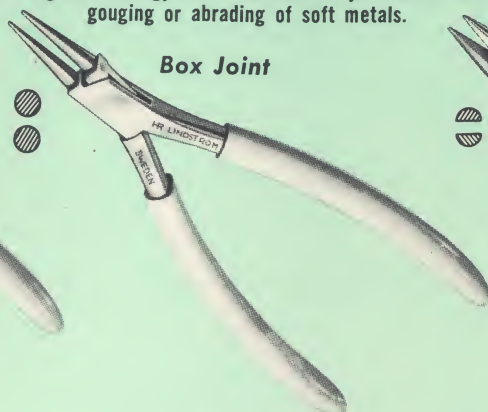


Box Joint

FLAT NOSE

Only 1/8" wide at tip. Insides of jaws are smooth and edges are rounded. Comes complete with vinyl plastisol handles.

No.	Length of jaws	Overall	Price
36-311P	3/4"	4 3/4"	\$4.50

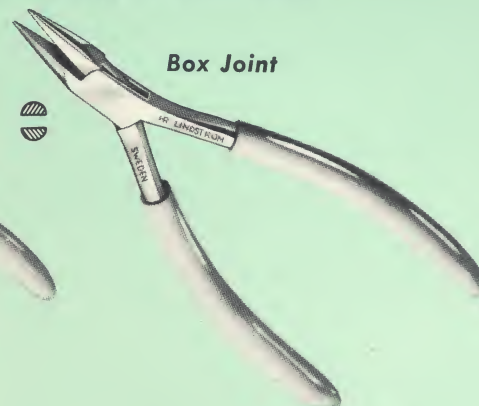


Box Joint

ROUND NOSE

Jaws are smooth and taper to a 1/32" diameter at the tip. Comes complete with vinyl plastisol handles.

No.	Length of jaws	Overall	Price
36-312P	3/4"	4 3/4"	\$4.50



Box Joint

CHAIN NOSE

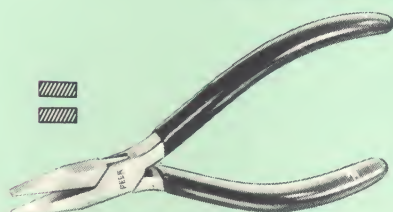
Popular snipe nose tapers to a 1/32" tip. Insides of jaws are smooth and edges are rounded. Complete with vinyl plastisol handles.

No.	Length of jaws	Overall	Price
36-314P	3/4"	4 3/4"	\$4.50

Double-leaf springs available for Supreme pliers @ 25¢ per pair.

LIGHTWEIGHT PRECISION PLIERS

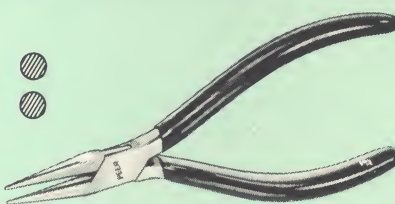
Small lightweight pliers with "Box Joints", Radius Edges, and Smooth Jaws for delicate, intricate manipulation of round and flat wire. Handles are insulated with comfortable Vinyl plastisol cushion grips.



FLAT NOSE

Only 1/8" wide at tip. Smooth jaws for gripping and holding flat surfaces or making angular bends.

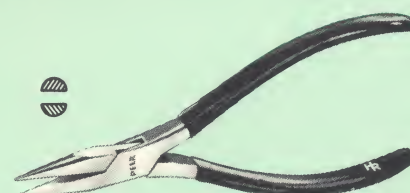
No.	Jaws	O.L.	Price
36-711P	7/8"	4 7/8"	\$2.95



ROUND NOSE

Smooth jaws taper 1/32" diameter tip. For making loops, bends, circles, coils and similar forming operations.

No.	Jaws	O.L.	Price
36-712P	7/8"	4 7/8"	\$2.95



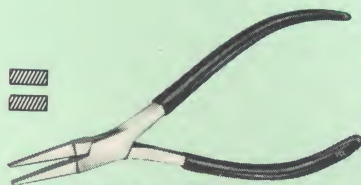
CHAIN NOSE

Popular snipe nose with smooth jaws for making bends, loops and similar forming operations.

No.	Jaws	O.L.	Price
36-714P	7/8"	4 7/8"	\$2.95

MIDGET PLIERS

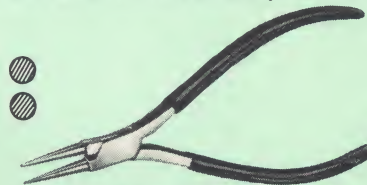
The smallest Box Joint pliers available for fine, delicate construction and light precision work. All have smooth jaws with radius edges.



FLAT NOSE

Only 1/16" wide at tip. Smooth jaws for gripping and holding flat surfaces or making angular bends.

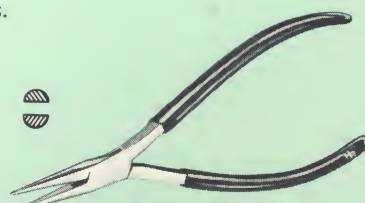
No.	Jaws	O.L.	Price
36-511P	3/4"	4 5/8"	\$2.95



ROUND NOSE

Smooth jaws taper to 1/64" diameter at tip. For making loops, bends, circles, coils, and similar forming operations.

No.	Jaws	O.L.	Price
36-512P	3/4"	4 5/8"	\$2.95



CHAIN NOSE

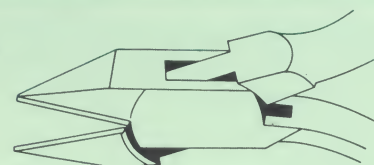
Popular snipe nose with smooth jaws for making bends, loops, and similar forming operations.

No.	Jaws	O.L.	Price
36-514P	3/4"	4 5/8"	\$2.95

Precision "BOX JOINT" construction outlasts and outperforms all other types.

In addition they:

- Retain precise alignment even under strain and after considerable use.
- Jaws never develop looseness or wobble, and yet open and close smoothly.





Hand Tools For Microelectronics



Pliers, Nippers, Tweezers and Scissors . . . made to the most exacting standards of metallurgy and craftsmanship. The exceptional quality of these tools is a result of the extensive use of hand operations at all stages of production, from shaping to finishing.



Tweezers manufactured by the original Swiss Dumont factory . . . forged from the best grade of tool steel, and machined to a smooth satin finish. Hand operations are extensively used in shaping, adjusting, and finishing the points.



Swedish Pliers and Nippers . . . forged from the finest Swedish tool steel available, then machined and hand finished to the most exacting specifications. Lindstrom's precision Box Joint construction retains precise jaw alignment.

**specialized tools for miniature
and micro-miniature applications**



HAMMEL, RIGLANDER & CO., INC.

Serving Precision Industries Since 1873

Post Office Box 222 • New York, N. Y. 10014 • (212) 989-7953

HAND TOOLS for Micro Electronics

Effective Date: April 15, 1966

Refer to Catalog No. 423

INDUSTRIAL CONSUMER PRICE LIST

Terms: 2% 10th proximo. Net 30th proximo.

F.O.B. Our establishment, New York, N. Y., unless stated otherwise.

Minimum: Per Order \$3.00

Prices: Subject to change without notice. Quantity prices are per number and size or full package where indicated — not assorted.

Stock No.	Size	1-2	3-5	6-11	Dozen
PLIERS AND NIPPERS					
36-018PS	4½"	\$5.00	\$4.17	\$3.75	\$40.00
36-018PS	5"	5.25	4.38	3.98	42.08
36-018½PS	4½"	5.50	4.59	4.13	44.00
36-018½PS	5"	5.75	4.80	4.32	46.08
36-311P	4¾"	4.50	3.75	3.38	36.00
36-312P	4¾"	4.50	3.75	3.38	36.00
36-314P	4¾"	4.50	3.75	3.38	36.00
36-316PS	4¼"	5.85	4.88	4.40	46.88
36-316½PS	4¼"	6.35	5.30	4.77	50.88
36-317PS	4¼"	5.85	4.88	4.40	46.88
36-317½PS	4¼"	6.35	5.30	4.77	50.88
36-318PS	4½"	5.85	4.88	4.40	46.88
36-318½PS	4½"	6.35	5.30	4.77	50.88
36-440P	5¾"	4.80	4.00	3.60	38.40
36-441P	5¾"	4.80	4.00	3.60	38.40
36-442P	4⅞"	4.80	4.00	3.60	38.40
36-443P	4⅞"	4.80	4.00	3.60	38.40
36-454	4"	4.40	3.67	3.30	35.20
36-464	4"	4.40	3.67	3.30	35.20
36-511P	4⅝"	2.95	2.46	2.22	23.68
36-512P	4⅝"	2.95	2.46	2.22	23.68
36-514P	4⅝"	2.95	2.46	2.22	23.68
36-516	4¼"	4.75	3.88	3.57	38.08
36-517	4½"	4.75	3.88	3.57	38.08
36-616	4⅜"	8.00	6.67	6.00	64.00
36-617	4⅜"	8.00	6.67	6.00	64.00
36-617C	4"	8.00	6.67	6.00	64.00
36-617E	4⅜"	17.50	15.75	14.20	—
36-618	4¼"	8.00	6.67	6.00	64.00
36-619	4¼"	8.00	6.67	6.00	64.00
36-619E	4¼"	17.50	15.75	14.20	—
36-619RS	4¼"	10.35	8.62	7.77	82.80
36-620	4⅜"	9.00	6.67	6.00	64.00
36-711P	4⅞"	2.95	2.46	2.22	23.68
36-712P	4⅞"	2.95	2.46	2.22	23.68
36-714P	4⅞"	2.95	2.46	2.22	23.68

Plastic Grip Handles. Available only on numbers indicated in catalog, where not standard. Add suffix "P" to order number. Pair..... 25¢

Leaf Springs. Available only on numbers indicated in catalog, where not standard. Add suffix "S" to order number. Pair 25¢

Stock No.	Size	1-2	3-5	6-11	Dozen
SCISSORS					
41-810	3½"	\$2.50	\$2.09	\$1.88	\$20.00
41-811	3½"	2.50	2.09	1.88	20.00
41-815	3½"	2.50	2.09	1.88	20.00
41-816	3½"	2.50	2.09	1.88	20.00
41-820	4"	2.60	2.17	1.95	20.80
41-825	4"	2.30	1.92	1.72	18.40
41-826	4"	2.40	2.00	1.80	19.20
41-827	4"	2.40	2.00	1.80	19.20
41-829	4¾"	4.50	3.75	3.38	36.00
41-830	4¼"	3.95	3.30	2.97	31.68
STAND WITH TWEEZER					
42-404R	—	3.20	2.88	—	—

Stock No.	Pattern	1-2	3-11	Dozen
TWEEZERS, DUMONT, CARBON STEEL				
46-100	0	\$3.45	\$3.10	\$33.12
46-100c	0c	3.45	3.10	33.12
46-101	1	2.90	2.61	27.84
46-102	2	3.10	2.79	29.76
46-103	3	3.10	2.79	29.76
46-103c	3c	3.10	2.79	29.76
46-104	4	3.70	3.33	35.52
46-105	5	4.15	3.74	39.84
46-106	6	5.00	4.50	48.00
46-107	7	5.00	4.50	48.00
46-107A	7A	5.00	4.50	48.00
46-107B	7B	5.00	4.50	48.00
46-108	8	6.95	6.25	58.72
46-110/1	10/1	7.00	6.30	—
46-110/3	10/3	7.00	6.30	—
46-111 (German Silver)	11	3.60	3.24	34.56
46-112 (German Silver)	12	3.80	3.42	36.48
46-133	H	3.10	2.79	29.76
46-140	00	3.45	3.10	33.12

TWEEZERS, DUMONT STAINLESS

46-150	0	3.95	3.55	37.92
46-150c	0c	3.95	3.55	37.92
46-151	1	3.45	3.10	33.12
46-152	2	3.70	3.33	35.52
46-153	3	3.70	3.33	35.52
46-153c	3c	3.70	3.33	35.52
46-154	4	4.05	3.65	38.68
46-155	5	4.75	4.28	45.60
46-156	6	5.50	4.95	52.80
46-157	7	5.50	4.95	52.80
46-157B	7B	5.50	4.95	52.80
46-190	00	3.95	3.55	37.92

TWEEZERS, PEER STAINLESS

46-200	0	2.65	2.21	22.85
46-200c	0c	2.65	2.21	22.85
46-201	1	2.35	1.96	20.35
46-202	2	2.50	2.09	21.60
46-202A	2A	3.40	2.84	29.45
46-203	3	2.50	2.09	21.60
46-203c	3c	2.50	2.09	21.60
46-204	4	3.15	2.63	27.20
46-205	5	3.45	2.88	29.75
46-206	6	3.75	3.13	32.50
46-207	7	3.75	3.13	32.50
46-207B	7B	3.75	3.13	32.50
46-208	8	5.45	4.51	47.05
46-233	H	2.50	2.09	21.60
46-240	00	2.65	2.21	22.85

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

Stock No.	Pattern	1-2	3-11	Dozen
TWEEZERS, DUMOXEL (Stainless Non-magnetic)				
46-250	0	\$4.40	\$3.96	\$42.24
46-250c	0c	4.40	3.96	42.24
46-251	1	4.10	3.69	39.36
46-252	2	4.25	3.83	40.80
46-253	3	4.25	3.83	40.80
46-253c	3c	4.25	3.83	40.80
46-254	4	4.90	4.41	47.04
46-255	5	5.20	4.68	49.92
46-256	6	5.70	5.13	54.72
46-257	7	5.70	5.13	54.72
46-257B	7B	5.70	5.13	54.72
46-290	00	4.40	3.96	42.24
TWEEZERS, PEER SUPREME (Carbon Steel)				
46-300	0	2.40	2.00	20.80
46-300c	0c	2.40	2.00	20.80
46-301	1	2.10	1.75	18.10
46-302	2	2.25	1.88	19.55
46-303	3	2.25	1.88	19.55
46-303c	3c	2.25	1.88	19.55
46-304	4	2.90	2.42	25.15
46-305	5	3.20	2.67	27.70
46-308	8	3.50	2.92	30.25
46-307	7	3.50	2.92	30.25
46-307B	7B	3.90	2.92	30.25
46-308	8	4.95	4.13	42.75
46-310/1	10/1	6.95	5.80	60.20
46-310/3	10/3	6.95	5.80	60.20
46-311 (German Silver)	11	2.80	2.34	24.20
46-312 (German Silver)	12	3.25	2.71	28.20
46-314aN	14aN	7.50	6.25	66.15
46-314C	14C	6.15	5.13	53.15
46-315	15	5.35	4.46	45.00
46-315A	15A	7.50	6.25	66.15
46-315AP	15AP	7.50	6.25	66.15
46-340	00	2.40	2.00	20.80
TWEEZERS, PEER-OXEL (Stainless Non-magnetic)				
46-350	0	3.40	2.84	29.45
46-350c	0c	3.40	2.84	29.45
46-351	1	3.10	2.59	26.75
46-352	2	3.25	2.71	28.15
46-352A	2A	3.90	3.25	33.60
46-353	3	3.25	2.71	28.15
46-353c	3c	3.25	2.71	28.15
46-354	4	3.90	3.25	33.75
46-355	5	4.20	3.50	36.35
46-356	6	4.50	3.75	38.90
46-357	7	4.50	3.75	38.90
46-357B	7B	4.50	3.75	38.90
46-390	00	3.40	2.84	29.45
TWEEZERS, PEER ACID RESIST (Carpenter 20)				
46-362A	2A	4.40	3.67	38.10
46-363	3	3.75	3.13	32.50
46-363c	3c	3.75	3.13	32.50
46-364	4	4.40	3.67	38.10
46-365	5	4.70	3.92	40.65
46-367	7	5.00	4.17	43.20
TWEEZERS, PEER TITANIUM				
46-371	1	6.10	5.09	52.65
46-372	2	6.25	5.21	54.10
46-373	3	6.25	5.21	54.10
46-373c	3c	6.25	5.21	54.10
46-374	4	6.90	5.75	59.70
46-375	5	7.20	6.00	62.25
46-377	7	7.50	6.25	66.15
46-390 (See Peer-Oxel)	—	—	—	—

Stock No.	Pattern	1-2	3-11	Dozen
TWEEZERS, RENARD (Boley Style)				
46-602	AA	\$1.20	\$1.00	\$10.40
46-602B (Black)	AA	1.20	1.00	10.40
46-602C (Acid Resist)	AA	2.45	2.05	21.15
46-603	AM	1.65	1.38	14.25
46-604	BB	1.00	.84	8.65
46-606	GG	1.45	1.21	12.50
46-608	HH	1.25	1.05	10.90
46-611	LL	1.15	.96	9.95
46-613	MM	1.30	1.09	11.20
46-615	NN	1.20	1.00	10.40
46-617	OO	1.20	1.00	10.40
46-619	PP	1.10	.92	9.45
46-622	QQ	1.10	.92	9.45
46-624	RR	1.95	1.63	16.80
46-631	D	2.25	1.88	19.55
46-633	K	2.45	2.05	21.15
46-635	V	1.50	1.25	12.95
46-652 (Stainless)	AA	1.45	1.21	12.50
46-656 (Stainless)	GG	1.70	1.42	14.75
46-663 (Stainless)	MM	1.55	1.30	13.45
TWEEZERS, MISCELLANEOUS PEER				
47-003½	—	.40	.34	3.55
47-008	—	.35	.30	2.90
47-009	—	.75	.63	6.60
47-028	—	.60	.50	5.30
47-040	—	.50	.42	3.35
47-045	—	.60	.50	5.30
47-046	—	.65	.55	5.80
47-053	—	.75	.63	6.60
47-135	—	.65	.55	5.80
47-136	—	.65	.55	5.80
47-275	—	2.50	2.09	21.60
47-277	—	2.95	2.50	25.45
47-393	—	2.80	2.34	—
47-435A	—	3.50	2.92	30.25
47-436A	—	3.50	2.92	30.25
47-514	—	1.85	1.55	16.00
47-514½	—	1.85	1.55	16.00
47-515	—	1.95	1.63	16.80
47-515½	—	1.95	1.63	16.80
47-516	—	2.05	1.71	17.60
47-516½	—	2.05	1.71	17.60
47-612	—	2.85	2.38	24.65
47-613	—	2.85	2.38	24.65
47-614	—	2.15	1.79	18.55
47-616	—	2.35	1.96	20.35
47-618	—	2.05	1.71	17.60
47-620	—	2.25	1.88	19.55
47-634	—	2.65	2.21	22.90
47-636	—	2.85	2.38	24.65
47-638	—	2.55	2.13	22.10
47-640	—	2.75	2.30	23.85
47-655	—	2.25	1.88	19.55
47-657	—	1.95	1.63	16.80
TWEEZERS, VACUUM				
47-805	—	33.50	27.92	321.60
47-808	—	6.50	6.50	70.20
Teflon Points for Tweezers. 1½ mils thick. Minimum 1 dozen assorted.				
1 dozen \$2.00 ea. 3 dozen 1.50 ea. 1 gross 1.00 ea.				

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